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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,057	02/21/2002	Hirokazu Yoshida	Q88546	2446

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EXAMINER	
ADHAMI, MOHAMMAD SAJID	
ART UNIT	**PAPER NUMBER**
2662	

DATE MAILED: 12/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/081,057	YOSHIDA, HIROKAZU	
	Examiner	Art Unit	
	Mohammad S. Adhami	2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 May 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 February 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because improper language is used.

Correction is required. See MPEP § 608.01(b).

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The disclosure is objected to because of the following informalities: Throughout the specifications, the expression 2^n-1 is written as 2n-1. The later expression implies multiplication, whereas the correct form should be exponential.

Appropriate correction is required.

Claim Objections

4. Claim 4 is objected to because of the following informalities: In claim 4 on line 4, "wherein whole IP packet forming a part of the PPP frame is handled as the payload part" is confusing. The following correction clarifies the claim better, "wherein a whole IP packet, forming a part of the PPP frame, is handled as the payload part". Appropriate correction is required.

The examination assumes these corrections.

5. Claim 7 is objected to because of the following informalities: In claim 7 on line 17, "2n-1" should be written as "2^n-1." 2n-1 implies multiplication, whereas the correct form should be exponential. Appropriate correction is required.

The examination assumes these corrections.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites calculating "the number of inserted idle bytes"; however, it is unclear as to whether the number of inserted idle bytes being calculated has already been added or will be added. In paragraph 32, the specification cites "The CPU software processing section 1 executes to calculate the number of

insert idle bytes" which seems to refer to idle bytes that have already been inserted. In paragraph 58, the specification cites "the number-of-inserted-idle-bytes calculation section 1-3 calculates how many bytes of idle data are to be sent" which seems to refer to idle bytes that have not been inserted.

Claims 2-7 are rejected because they depend from claim 1.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lander (US 6,069,876) in view of Kaiyama (US 5,615,210) in view of Carneheim (US 6,215,798) and further in view of Leung (US 6,879,581).

Re claim 1 (as best understood):

Lander discloses "an idle sending section adapted to send an idle byte" (Figure 4 reference 44 where an idle cell generator generates idle cells to send).

Lander further discloses "a transmission control section adapted to send an idle byte; execute transmission of the plurality of packets from the transmission memory and transmission of idle bytes from the idle sending processing section to a digital line" (Figure 4 reference 46 where the BERT

insertion mux transmits either packets from the transmission memory or idle bytes from the idle sending processing section as defined above).

Lander does not explicitly disclose "a transmission memory adapted to store a plurality of packets" and "a software processing section having an idle sending processing section adapted to calculate the number of inserted idle bytes in response to a specified transmission rate of the digital signal."

Kaiyama discloses "a transmission memory adapted to store a plurality of packets" (Figure 8 step S41 has a buffer that acts as "a transmission memory" for storing packets).

Kaiyama further discloses "a software processing section having an idle sending processing section adapted to calculate the number of inserted idle bytes in response to a specified transmission rate of the digital signal" (Figure 8 reference S50 where the empty packets are "idle bytes" and are added to maintain a fixed length frame, where a fixed length frame provides a specified transmission rate, so the "idle bytes" are added to maintain the transmission rate and where the controller decides how many "idle bytes" are to be added).

Lander and Kaiyama are analogous because they both pertain to communications.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Lander as discussed above as taught by Kaiyama in order to maintain synchronization.

Lander and Kaiyama do not explicitly disclose "a pseudo-random pattern storage section adapted to store a pseudo-random pattern" and "packets...constructed by inserting the pseudo-random pattern in sequence into...parts of a continuous frame of digital signal."

Carneheim discloses "a pseudo-random pattern storage section adapted to store a pseudo-random pattern" (Col.3 lines 19-21 "The PN sequence...is generated by PN sequence source...such as being shifted out of a memory" where the PN sequence in a "pseudo-random pattern" and the memory can store the "pseudo-random pattern").

Carneheim further discloses "packets...constructed by inserting the pseudo-random pattern in sequence into...parts of a continuous frame of digital signal" (Figure 3 step 310 where the synchronization sequence bits are the "pseudo-random pattern" and are being inserted into a continuous frame).

Lander, Kaiyama, and Carneheim are analogous because they all pertain to communications.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Lander in view of Kaiyama as discussed above as taught by Carneheim in order to maintain synchronization.

Lander, Kaiyama, and Carneheim do not explicitly disclose "inserting the pseudo-random pattern in sequence into payload parts."

Leung discloses "inserting the pseudo-random patter in sequence into payload parts" (Col.3 lines 22 and 23 "generating a payload data packet").

Lander, Kaiyama, Carneheim and Leung are analogous because they all pertain to communications.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Lander in view of Kaiyama and Carneheim as discussed above as taught by Leung in order organize the transmission of data.

Re claims 2-4 (as best understood)**:**

As discussed above, Lander in view of Kaiyama, Carneheim, and Leung meets all the limitations of the parent claim.

Lander in view of Kaiyama and Carneheim does not explicitly disclose "wherein the digital signal is an IP packet."

Leung discloses (**Re claim 2**)"wherein the digital signal is an IP packet" **(**Col.4 line 26 "the mobile stations...generate IP packets"**)** and (**Re claim 3**) "wherein the digital signal is a PPP frame" (Col.4 lines 27 and 28 "encapsulate the IP packets into frames using a point-to-point protocol (PPP)" and (**Re claim 4**) "and "wherein whole IP packet forming a part of the PPP frame is handled as the payload part" **(**Col.3 lines 22 and 23 "generating a payload data packet"**)**.

Lander, Kaiyama, Carneheim and Leung are analogous because they all pertain to communications.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Lander in view of Kaiyama and Carneheim as discussed above as taught by Leung in order to use the benefits of high-speed data communications.

10. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lander in view of Kaiyama, in view of Carneheim, in view of Leung and further in view of Trans (US App. 2005/0186933).

Re claim 5 (as best understood):

As discussed above, Lander in view of Kaiyama, Carneheim, and Leung meets all the limitations of the parent claim.

Lander in view of Kaiyama, Carneheim, and Leung does not explicitly disclose "wherein the digital line is an SDH line".

Trans discloses "wherein the digital signal is a PPP frame" and "wherein the digitals signal line is an SDH line" (Paragraph [0033] "transport mechanism such as...PPP over SONET").

Lander, Kaiyama, Carneheim, Leung and Trans are analogous because they all pertain to communications.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Lander in view of Kaiyama, Carneheim, and Leung as discussed above as taught by Trans in order to use the benefits of high-speed data communications.

11. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lander, in view of Kaiyama, in view of Carneheim, in view of Leung and further in view of McWilliams (US App. 2002/0031141).

Re claim 6 (as best understood):

As discussed above, Lander in view of Kaiyama, Carneheim, and Leung meets all the limitations of the parent claim.

Lander in view of Kaiyama, Carneheim, and Leung does not explicitly disclose "an error [being] settable in the pseudo-random pattern in advance."

McWilliams discloses "an error [being] settable in the pseudo-random pattern in advance" (Paragraph [0414] "The Test Error Control register is used to control the transmission of a PRBS pattern for Bit Error Rate testing, or to introduce HEC and BIP errors").

Lander, Kaiyama, Carneheim, Leung and McWilliams are analogous because they all pertain to testing a system.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Lander in view of Kaiyama, Carneheim, and Leung as discussed above as taught by McWilliams in order to test the ability of a system to properly detect an error.

12. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lander, in view of Kaiyama, in view of Carneheim, in view of Leung, and further in view of Rick (US 6,707,842).

Re claim 7 (as best understood):

As discussed above, Lander in view of Kaiyama, Carneheim, and Leung discloses all the limitations of the parent claim.

Lander in view of Kaiyama, Carneheim, and Leung does not explicitly disclose "the pseudo-random random pattern...having 2^n-1 bits and is changeable arbitrarily."

Rick discloses "the pseudo-random random pattern...having 2^n-1 bits and is changeable arbitrarily" (Col. 3 lines 4 and 5 "The period of the PN code sequence generated...is 2^n-1 bits" where N is changeable arbitrarily).

Lander, Kaiyama, Carneheim, Leung and Rick are analogous because they all pertain to communications.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Lander in view of Kaiyama, Carneheim, and Leung as discussed above as taught by Rick in order to select an appropriate period for the pseudo-random pattern.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Merchant (US 5,457,700) discloses a pseudo-random pattern and an idle byte processing section. Natio (US 5,257,311) discloses pseudo-random patterns and testing a connection. Suemura (US App. 2001/0008001) discloses a pseudo-random sequence. Settle (US 6,233,253) discloses inserting null bits.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammad S. Adhami whose telephone number is (571)272-8615. The examiner can normally be reached on Monday-Friday 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571)272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MSA 11/30/2005

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